CLAIMS:

Sub B1

1. A method for attempting to provoke narrowing of the upper or lower airways in a subject comprising the steps of (a) causing the subject to inhale into the airways an effective amount of a substance capable of altering the osmolarity of airway surface liquid in the subject, which substance is in the form of a dispersible dry powder containing an effective proportion of particles of a respirable size, and (b) measuring in the subject a parameter indicative of the resistance to air flow of the subject's airways.

2. A method as claimed in claim 1 in which the subject is caused to inhale the substance into the airways of the lung.

3. A method as claimed in claim 1 in which the subject is caused to inhale the substance into the airways of the nose.

4. A method as claimed in claim 1 in which the substance is selected from the group comprising mineral salts, sugars and sugar alcohols.

5. A method as claimed in claim 4 in which the substance is selected from the group comprising salts of sodium or potassium, hexose and pentose sugars and their corresponding sugar alcohols.

6. A method as claimed in claim 5 in which the substance is selected from the group comprising sodium chloride, potassium chloride, mannitol and dextrose.

7. A method as claimed in claim 1 in which an effective quantity of the dry particles have a maximum dimension of seven microns.

Sub B2

8. A method as claimed in claim 1 in which the proportion of the particles in the respirable range is at least 10% by weight of the substance, preferably at least 25%, more preferably at least 40% and most preferably at least 50%.

9. A method as claimed in claim 1 in which the parameter indicative of airway narrowing that is measured comprises measuring the forced expiratory volume in 1 second (FEV_1).

10. A method as claimed in claim 1 in which the substance is packaged in a rupturable hard capsule.

11. A method as claimed in claim 10 in which the capsule contains from 1 to 100 mg of the substance, preferably 5 to 40 mg.

Sub B3

12. A method for increasing mucociliary clearance or inducing sputum comprising the step of causing a subject to inhale into his or her airways an effective amount of a **substance capable of altering the osmolarity of airway** surface liquid, the substance being in the form of a dispersible dry powder containing an effective proportion of particles of a respirable size.

13. A method as claimed in claim 12 in which the subject is caused to inhale the substance into the airways of the lung.

14. A method as claimed in claim 12 in which the subject is caused to inhale the substance into the airways of the nose.

15. A method as claimed in claim 12 in which the substance is selected from the group comprising mineral salts, sugars and sugar alcohols.

16. A method as claimed in claim 15 in which the substance is selected from the group comprising salts of sodium or potassium, hexose and pentose sugars and their corresponding sugar alcohols.

17. A method as claimed in claim 16 in which the substance is selected from the group comprising sodium chloride, potassium chloride, mannitol and dextrose.

18. A method as claimed in claim 12 in which an effective quantity of the dry particles have a maximum dimension of seven microns.

Sub B4

19. A method as claimed in claim 12 in which the proportion of the particles in the respirable range is at least 10% by weight of the substance, preferably at least 25%, more preferably at least 40% and most preferably at least 50%.

20. A method as claimed in claim 12 in which the substance is packaged in a rupturable hard capsule.

21. A method as claimed in claim 20 in which the capsule contains from 1 to 100 mg of the substance, preferably 5 to 40 mg.

22. A rupturable container containing an effective quantity of a substance capable of altering the osmolarity of airway surface liquid in a subject, the substance being in the form of a dispersible dry powder containing an effective proportion of particles of a respirable size.

23. A rupturable container as claimed in claim 22 in which the container is a hard capsule.

24. A rupturable container as claimed in claim 23 in which the hard capsule is made of gelatine.

25. A rupturable container as claimed in claim 22 in which the container contains from 1 to 100 mg of the substance, preferably 5 to 40 mg.

26. A rupturable container as claimed in claim 22 in which at least 10% by weight of the particles are in the respirable range, preferably at least 25%, more preferably at least 40% and most preferably at least 50%.

27. A rupturable container as claimed in claim 22 in which the respirable particles have a maximum dimension of seven microns.

28. A rupturable container as claimed in claim 22 in which the substance is selected from the group comprising mineral salts, sugars and sugar alcohols.

29. A rupturable container as claimed in claim 28 in which the substance is selected from the group comprising

salts of sodium or potassium, hexose and pentose sugars and their corresponding sugar alcohols.

30. A rupturable container as claimed in claim 29 in which the substance is selected from the group comprising sodium chloride, potassium chloride, mineral and dextrose.